

OPTICAL WAVEGUIDE LENS AND METHOD OF FABRICATION

ABSTRACT OF THE INVENTION

A spherical lens formed by fusing a generally homogenous glass lens blank to
 the distal end of an optical fiber, heating and tensioning the lens blank to separate it in
 two segments with the segment attached to the optical fiber defining a tapered end, and
 heating the lens blank above its softening point so that the spherical lens forms. The
 lens blank is fabricated from a 4 mole percent borosilicate glass having a softening
 point less than that of the core of the optical fiber. The lens member defines a throat
 region adjacent the optical fiber whose cross-sectional dimension is substantially
 greater than the diameter of the optical fiber, but substantially less than the diameter of
 the spherical lens.